REMARKS

Claims 1 and 13 have been amended to correct the minor informality noted by the Office. Removal of the objection to the claims is believed to be in order and is respectfully requested.

Claims 5-8 and 17-20 have been amended to precisely recite that when the hydrogen absorbing alloy of the present invention contains at least one element selected from V, Nb, Ta, Cr, Mo, Mn, Fe, Co, Ga, Zn, Sn, In, Cu, Si, P and B, part of the nickel of the alloy is replaced with at least one element selected from V, Nb, Ta, Cr, Mo, Mn, Fe, Co, Ga, Zn, Sn, In, Cu, Si, P and B. See paragraph [0019] on pages 6 and 7.

Claims 1, 5, 13 and 17 are rejected under 35 U.S.C. 102(b) as being anticipated by Kaneko (U.S. Patent No. 5,964,968) (hereinafter: "Kaneko"). Claims 2-4, 6-12, 14-16 and 18-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kaneko. Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kaneko in view of Newman et al. (U.S. Patent No. 5,283,139) (hereinafter: "Newman").

Applicants respectfully submit that the alloy of Kaneko is distinct from the alloy of the present invention and, therefore, that Kaneko, alone or in combination with Newman, fails to support a case of anticipation of the claims of the application under 35

U.S.C. § 102 and fails to support a case of obviousness of the claims of the application under 35 U.S.C. § 103(a).

The alloy of the present invention is a rare-earth-Mg-Ni alloy having a crystalline structure of the AB_3 or $AB_{3.5}(Ce_2Ni_7)$ type, which is different from an AB_2 and AB_5 type crystalline structure. (Refer to paragraphs [0004] ~ [0007] of the present application in which "$CaCu_5$ type" (line 3, paragraph [0004]) has the same meaning as AB_5). The alloy of Kaneko, on the other hand, is an AB_5 single-phase crystal ($LaNi_5$ single-phase crystal).

More particularly, the alloy of the present invention can be represented by the formula $AB_{x'}$, where x' is 2.8 ~ 3.9, i.e., x' is a maximum of 3.9, A is $Ln_{1-x}Mg_x$, and B is $Ni_{y-a}Al_a$. Component A comprising mainly rare-earth elements easily forms a hydride, and component B comprising a transition metal, for example, Ni and the like, does not easily form a hydride. If part of Ni is substituted by another transition metal, e.g., Co, Fe, or the like, the maximum total mole ratio is 3.9. For example, the total mole ratio in Example 10 is 3.43 (i.e., the mole ratio of Ni is 3.1, the mole ratio of Al is 0.2, the mole ratio of Co is 0.1, the mole ratio of Fe is 0.03, and the total mole ratio is 3.43.)

The alloy in Kaneko can also be represented by the formula $AB_{x'}$, but x' is 4.5 ~ 5.0, i.e., x' is a minimum of 4.5, A is $R_{1-x}L_x$,

and B is $Ni_{1-y}M_y$. Therefore, the alloy is completely different from that of the present invention. The Office identifies the alloy described in Col. 6, lines 48-49, of Kaneko, i.e., the alloy of the formula $La_{0.23}Ce_{0.46}Pr_{0.05}Nd_{0.18}Mg_{0.08}Ni_{3.38}Al_{0.19}Co_{0.5}Mn_{0.17}Fe_{0.02}$, as being within the scope of the claims of the present application. However, the alloy of Kaneko identified by the Office does not have the formula $Ln_{1-x}Mg_xNi_{y-a}Al_a$ as recited in claim 1 of the present application. The Office cannot calculate only the subscripts of the rare earth elements, Mg, Ni and Al contained in the alloy and exclude Co, Mn and Fe contained in the alloy.

In the present invention in which the alloy is a rare-earth-Mg-Ni alloy having a crystalline structure of the AB_3 or $AB_{3.5}$ (Ce_2Ni_7) type and in which the composition is optimized to one having the formula $Ln_{1-x}Mg_xNi_{y-a}Al_a$ ($0.05 \leq x \leq 0.20$, $2.8 \leq y \leq 3.9$, and $0.1 \leq a \leq 0.25$), high capacity and improved cycle characteristics are obtained. The properties of the alloy of the present invention cannot be expected from the disclosure of Kaneko in which the kind of alloy and crystalline structure are different.

Kaneko, moreover, teaches away from an alloy as claimed in the present invention and represented by the formula $AB_{x'}$, where x' is 2.8 ~ 3.9. Kaneko describes in Col. 4, lines 58 ~ 61:

> "If z in the above formula (1), i.e., the atomic ratio of $(Ni_{1-y}M_y)$ is less than 4.5 when $(R_{1-x}L_x)$ is 1, the $LaNi_5$ type single phase structure is not obtained, and the battery life is shortened."

For the above reasons, removal of the 35 U.S.C. 102(b) and 35 U.S.C. 103(a) rejections of the claims is in order and is respectfully requested.

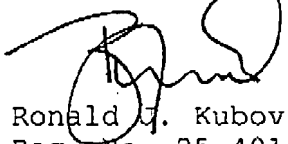
The foregoing is believed to be a complete and proper response to the Office Action dated March 28, 2007.

In the event that this paper is not considered to be timely filed, applicants hereby petition for an appropriate extension of time. The fee for any such extension may be charged to our Deposit Account No. 111833.

In the event any additional fees are required, please also charge our Deposit Account No. 111833.

Respectfully submitted,

KUBOVCIK & KUBOVCIK



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